Math 211
Quiz 06

M 15 Jul 2019

Your name : _____

Exercise

(5 pt) Find the general solution to the nonhomogeneous linear ODE[1]

$$y' + y = \frac{1}{1 + e^t}. \tag{1}$$

[1] *Hint:* Recall that the nonhomogeneous principle says we can find (i) one particular solution to the nonhomogeneous ODE, (ii) the general solution to the corresponding homogeneous ODE, then combine them to get the general solution to the nonhomogeneous ODE. While we're not obliged to use variation of parameters here, recall that it says that a particular solution to a nonhomogeneous ODE can be found by treating the constant in the general solution to the corresponding homogeneous ODE as a function of t.